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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,115	10/18/2003	Colm C. Kennedy		2916

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JAMES E. BAME
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PALOS VERDES ESTATES, CA 90274-1313

EXAMINER

CAO, HUEDUNG X

ART UNIT PAPER NUMBER

2821

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/689,115

Applicant(s)

KENNEDY ET AL.

Examiner

Huedung X. Cao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 17-20 is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☒ Claim(s) 3-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/18/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over DUMONT (US. 5,990,844) in view of (WHITTY US 3,623,162).

As per claim 1, Dumont teaches the claimed "slot antenna mountable on the aircraft" (Dumont, the radiating slot antenna useable for mounted on aircraft or land vehicle; column 1, lines 14-17, 42-44, and column 2, lines 52-56) comprising:

a) a lower plate (since Dumont's antenna has the position up-side-down in comparison to the claimed antenna, Dumont's layer of conductors on the top of the layer 3 is equivalent to the claimed lower plate; figure 4; column 2, lines 15-18, and column 3, lines 31-33);

b) an upper plate adjacent to the lower plate (Dumont's layer 3 is equivalent to the claimed upper plate, figures 1 and 4; column 2, lines 52-56);

c) an antenna element (Dumont's the combination of the chutes 1 and the radiating plate 2; column 3, lines 5-24); and

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d) a tuner operatively connected to the antenna element (Dumont, column 4, lines 1-6);

wherein, the tuner transmits radio frequency signals to the antenna element (Dumont, column 4, lines 1-11), and wherein the antenna element and the lower plate produce a capacitor effect (Dumont's metal conductor plate 21 of the antenna element and the layer of conductors on top of the layer 3 are separate by the dielectric material, and thus, creates a capacitor effect).

It is noted that Dumont's does not teach that the airplane is a "Hercules" airplane. However, Dumont teaches that his slot antenna can be mounted in any moving vehicle or airplane (column 1, lines 14-17, 42-44, and column 2, lines 52-56); therefore, Dumont's antenna can be mounted in a "Hercules" airplane. Furthermore, the feature of "Hercules" airplane is stated in the preamble and does not effect to the elements in the body of claim. Also, in the preamble, Applicant claims that the antenna is mounted in the "dorsal fin" of the airplane which Dumont does not teach. However, Whitty teaches that a slot antenna mounted on the dorsal fin of an airplane is well known in the art (Whitty, column 3, lines 21-24). It would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Whitty, to configure Dumont's antenna as claimed by mount it on the airplane's dorsal fin because in the dorsal fin position, the antenna generates a desirable pattern of the polarization wave field (Whitty, column 2, lines 65-68).

Claim 2 adds into claim 1 "wherein the antenna element is integrated within the upper plate" which Dumont teaches in the integration of the layer 3 (equivalent to the claimed upper plate) to the chutes and plate 21 of the antenna (Dumont, column 3, lines 25-28).

Allowable Subject Matter

3. Claim 3 and its dependent claims 4-16 are objected but would be allowed if re-written in independent form. The allowable feature is "the antenna element having a center prong, a first lower prong and a second lower prong, wherein the three prongs are substantially separated by a fiberglass plate.

4. Claims 17-20 are allowable over the prior art for the feature: wherein the back-end of the antenna being adjacent to and connectedly grounded to the empennage, wherein the antenna element and the lower plate are separated by air, thereby producing a capacitor effect, and whereby the radio frequency signals will tend to radiate towards the grounded back-end of the antenna element and into the empennage area.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Riddle et al. (US 6094171) teach an aircraft antenna system integrated into one or more walls of an equipment pod mounted beneath an aircraft.

Goetz et al. (6097343) teach an antenna system structurally integrated into a load bearing structural member of an aircraft.


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Inquires

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huedung Cao whose telephone number is (571) 272-1939.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke extending to the right.

Huedung Cao
Patent Examiner